

REMARKS/ARGUMENTS

Status of Application

Claims 1-8, 10-42, and 55-57 are pending. Claims 1-8, 10-19, 21-28, 31-32, 40-42, 39, and 55-57 have been allowed. Claims 36-39 were objected to as depending from a rejected claim.

Claims 29-30 and 33-35 were rejected over the prior art. Claim 20 was rejected in view of indefiniteness arising from an inadvertently canceled word.

Claim 20

In the previous Amendment, Applicant remarked that he had "broadened claim 20 by removing the language 'said non-optical interaction being other than a tunneling current between said tip and said object.'" However, due to an inadvertent error without deceptive intent, the Amendment in the listing of claims failed to show the removed text, and further removed an extra word. Thus the amended claim element should have read as follows:

means for inducing and detecting non-optical interaction of said tip and said object, ~~said non-optical interaction being other than a tunneling current between said tip and said object;~~

rather than:

means for inducing and detecting non-optical interaction of said tip and said object,;

which is what led to the indefinite claim element.

Applicant regrets the error and has amended claim 20 to add the word "object" back into the claim.

The Rejection Over Theodore

Claims 29-30 and 33-35 have been rejected as anticipated by U.S. Patent No. 5,338,932 to Theodore et al. (Theodore). Applicant respectfully but strenuously reaffirms his

position that Theodore, while purporting to make the cantilever more rigid, does not do so in a manner that immobilizes the tip as called out in Applicant's claims.

Theodore discloses two embodiments, both of which are said to allow the rigidity of the cantilever to be selectively increased. These are:

1. an embodiment where a downward repulsive electrostatic force is imposed near the middle of the cantilever; and
2. an embodiment where a piezoelectric element is affixed to the top of the cantilever.

The first embodiment deflects the tip downwardly and increases the resistance to upward movement (i.e., movement away from the object being inspected) by the imposition of the downward, distance-dependent electrostatic force. The second embodiment, as best can be understood, flexes the cantilever downwardly, and thus also increases the resistance to upward movement. *Applicant respectfully submits that neither of Theodore's mechanisms impedes motion of the tip toward the object.*

It will be appreciated that Applicant's various mechanisms attract the end of the cantilever to the more rigid overlying structure (capacitive or inductive embodiments) or mechanically constrain the end of the cantilever. This is not a mere difference in degree—it is a difference in kind.

Applicant has amended claim 29 to recite that the tip is immobilized “so as to prevent said tip from moving toward or away from said object.” Theodore does not disclose or suggest this. This amendment does not add new matter.

Accordingly, Applicant respectfully submits that claim 29 is allowable. Claims 30 and 33-35 depend directly or indirectly from claim 29 and recite additional limitations. For at least this reason, claims 30 and 33-35 are also allowable.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Application No. 10/047,454
Amendment dated December 20, 2004
Reply to Office Action of July 19, 2004

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

A handwritten signature in black ink that reads "David Slone". The signature is written in a cursive, flowing style.

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